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ABSTRACT

The instructional organization patterns used by experienced teachers in coping with classroom environmental demands is described. Observations of teachers in natural settings were conducted using both a self-designed observation schedule and brief narratives to capture the nature of the classroom climate. Results suggest that teachers use organization patterns as strategies for coping with multiple events as well as for structuring content into manageable learning units for students. The organization patterns are discussed in terms of their implications for teacher education. (Author/JD)

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Classroom Teacher Behavior and Instructional Organization Patterns

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Much of the research on teaching in the last 20 years has emphasized identifying those teaching behaviors that are related to teaching effectiveness. However, the results of these research efforts have been somewhat disappointing in that few teaching behaviors have been noted which consistently relate to student achievement.

Nonetheless, the efforts of such researchers as Jackson (1965), Gump (1969), Kounin (1970) and Doyle (1977a) have presented some salient results relative to teacher organization patterns in planning for the delivery of instruction.

Jackson (1965), for example, stresses the importance of differentiating "preactive" and "interactive" teaching. Preactive teaching takes place during non-class periods: before and after school, during recess and other times when the teacher is alone in the classroom. Interactive teaching refers to face-to-face encounters between teachers and students.

Gump (1969), Kounin (1970) and Doyle (1977b) have explored studies of classrooms as miniature social systems and ecological environments. Doyle suggests that there are many environmental demands to which the teacher must attend. Additionally, he describes schools as having broad custodial functions and dominant administrative patterns wherein teachers are required to see all of their clients every day in groups of some 20 to 30 students for designated time periods. In a study of beginning teachers, Doyle (1977a) found the most salient features of the classroom environment for those teachers were: a) multidimensionality, b) simultaneity and c) unpredictability. In other words, the teaching-learning environment is characterized as a very complex enterprise.

This paper reports some of the results of a three year study designed to identify sets of teaching skills necessary to meet the demands of these complex environments. The research reported here examined the comprehensive nature of the multiple functions of the teacher within the classroom. We analyzed seemingly unrelated, isolated events and identified a descriptive set of concepts for the study of classrooms as social systems.

Method

The sequence of data collection followed a typical ethnographic methodology in that, unlike prestructured research designs, the information gathered and theories that emerged were used to direct subsequent data collection.

The data collection sequence included five strategies. Initially, school practitioners were asked to provide descriptive data about teacher classroom functions. Fifty-six experienced teachers, principals, and counselors acted as participant-observers and wrote critical teaching incidents in order to develop our descriptive data base.

The second phase of data collection involved content analysis of the critical incidents. Each of the 250 critical incidents submitted seemed to match another one in some generic sense, and each was categorized according to the teacher function it described. Five teacher function categories resulted: (a) diagnostician, (b) designer, (c) facilitator, (d) manager, and (e) evaluator. An observation system detailing teacher acts within the instructional facilitator and manager roles was developed in order to build a continuous flow of events describing the interactive classroom social system.

In the third phase of data collection we investigated teacher interactive behavior by observing four teachers in two urban elementary (K-5) schools in a small, inner city school district of 3,000 students. This district was organized around four elementary schools, a middle and senior high school. Each of the four teachers involved were given a general explanation of the study and each agreed to periodic observations for approximately a one month period. These observations occurred during May, 1977 and 1978. Class size in these fourth grades averaged 20-25 students. The four teachers had approximately 4-6 years teaching experience. Each class operated under a self-contained structure with the exception of special subjects in art, music and physical education. This school district, describes three classroom teaching-learning models: 1) traditional; 2) open; and 3) modern conventional which is a combination of traditional/open, as is appropriate. Two of the teachers observed in this study had modern conventional classrooms, and the other two taught in open settings. Generally, reading and language skills are taught in the morning and math, social studies and/or science in the afternoon.

To describe teacher behavior in the learning environment we used both self-designed observation schedules and brief narratives to capture the nature of the lesson observed as well as the classroom climate. In May, 1977 teachers were observed teaching science and social studies. The purposes of these observations were to describe teacher behavior patterns in these two subject areas. However, since the same observation schedule was utilized, the data were combined with the 1978 data. During May, 1978 teachers were observed in 10-minute intervals for a total of 400 minutes over a three week period. A short narrative was completed after each 10-minute interval in order to describe the flow of events which had occurred during the observation. Observation records include teacher behaviors under settings with small groups and whole groups, as well as with individuals, and teaching in a variety of subjects such as reading, language, mathematics, science and social studies.

The observers were experienced in ethnographic research and each had some familiarity with the schools and teachers involved. They were trained to use the observation system by utilizing it with transcribed field notes as well as actual classroom observations of the four teachers. A 100 per cent inter-observer reliability was attained before the study proceeded.

Analysis of the frequency data comprised the fourth phase of this study. We analyzed the quantitative data looking for broad patterns of behavior which seemed to result in certain interactive classroom climates described in the written paragraphs. Also during this phase, observers made suggestions for revising the observation system. The observations were repeated during the next school year, and both sets of data were analyzed across four context variables.

The final phase of data collection was an informal follow-up interview with the teachers to discuss their perceptions of our results. This phase is just beginning and will be the focus of future research which will involve recording one teacher's activities in both the preactive and interactive phases of teaching.

Results

The observation system enabled an observer to manage a variety of concepts for the study of the classroom climate. Such concepts were considered context

variables which impact behavior of teachers and pupils. The four context variables which emerged as having importance for teacher behavior patterns were: (a) lesson type, (b) subject matter, (c) size of instructional group, and (d) time. Lesson type describes whether a lesson is an introduction to a new topic or concept, a continuation of work conducted over several days duration, or a review of previously mastered material. Subject matter refers to the basic courses of reading, language, mathematics, science and social studies. Size of instructional group indicates whether a teacher is working with a whole, central group, small group or individual learner. Lastly, time relates to what day of the instructional week or time of day a lesson occurs.

These aforementioned context variables have been identified and explored by several researchers. Waller (1932), for example, suggested a number of factors which bear upon classroom interactions. He viewed the classroom as a rule-bound system in which only certain activities, or lesson types are likely to occur. Dunkin and Biddle (1974) later proposed that lesson formats or types may be analyzed as systems of roles. Roles, in this sense, are patterns of behavior characteristic of teacher functions and are closely interrelated. For example, our observations illustrated that teacher behavior was different for each of three lesson types. One teacher was observed introducing a new science topic, the human circulatory system, and her behavior was quite different for this lesson than when she was observed reviewing factors learned during a social studies unit on housing patterns in diverse climates. During the introductory lesson, the teacher asked open-ended questions of learners about their experiences and knowledge of human blood. She accepted all answers. The climate during this lesson was informal, noisy and lighthearted. But during the review lesson, the teacher posed rapid-fire questions that tested students' recall, and the lesson climate was more formal with an apparent structured rule system. Only one student spoke at a time, and each reciter was called on by the teacher.

Subject matter also proved to have an impact on teacher and pupil behavior. In our observations of fourth grade teachers, we found that sixty-four per cent of all behaviors observed were seen during the teaching of reading or language arts lessons. Approximately twenty-one per cent were observed during math, eleven per cent during science and only four per cent during

social studies. Overall, over seventy per cent of teacher behaviors observed were categorized as facilitator role, or those behaviors which involved giving instructional directions, assisting learners to complete instructional tasks and praising or reinforcing learners. The other thirty per cent were manager behaviors wherein teachers defined classroom or instructional rules, directed learners to act, monitored seatwork, organized and distributed learning materials and the like. Table I summarizes the frequency of teacher behaviors by instructional role and subject matter. A distinctive pattern is evidenced with regard to facilitator versus manager roles between subjects. For example, as seen in Table I, these teachers were observed to demonstrate facilitator behaviors twice as frequently as manager behaviors in reading, language and math, facilitator behaviors more than four times as frequently in science and a one to one ratio in social studies. Thus these teachers apparently provided more verbal structuring when teaching reading, language and math than when they taught science and social studies. Therefore, we concluded that subject matter does affect teacher structuring behavior in the interactive setting.

Insert Table I about here

We were also able to identify a third strategy used by teachers to cope with the complexity of the classroom environment. Teachers vary the size of the instructional group they directly supervise, for a variety of reasons. Gump (1967) and Adams and Biddle (1970) have both explored the influence of instructional group size on teacher and pupil behavior. In the Adams and Biddle study, it was found that more peripheral and noninvolved student groups are present in social studies lessons than in mathematics where more teacher directed central groups exist. Gump indicated that in his third grade study, most of the day was spent in whole-class activities when a central group exists during most of the lesson. While thirty per cent of the day was spent in whole-group structure, Gump found an additional twenty-five per cent of the day was spent in seatwork activities. Table 2 represents that in our observations we determined that thirty-two per cent of teacher behavior was observed during whole group and fifty-two per cent when teachers were working with individual learners. Analyses of the summary paragraphs written by observers indicated that much of the individual teacher-pupil interactions

occurred when teachers were monitoring pupil seatwork. Moreover, twenty-six per cent of individual teacher-pupil interactions were observed during mathematics, seventy-one per cent during reading lessons and only one per cent during social studies. This latter statistic may suggest why Adams and Biddle found more peripheral, noninvolved groups in social studies than in mathematics. That is, teachers structured mathematics lessons and continuously monitored individual pupil behavior to maintain their on-task involvement. However, during social studies instruction, teachers provided a loose structure initially and did not monitor the occurrence of noninvolved pupil behavior.

Insert Table 2 about here

Doyle (1977b) has proposed an ecological model of classrooms which postulates that broader environmental demands mediate teacher performance and establish limits on the range of response options. This ecological model includes the rather complex system of interrelated context variables we have presented as descriptive of the nature of classrooms and which contribute to cumulative patterns of teacher behavior that more effective teachers develop as coping strategies. Consistent with Doyle's (1977a) findings we suggest that teachers develop these coping strategies as attempts to reduce the complexity of the classroom environment.

The fourth context variable we investigated in our work at fourth grade emerged when we collapsed lesson type, subject matter, and instructional group size data and examined when certain behaviors occurred. Consequently, the final context variable relates to time or the point in an instructional sequence when an event occurs. What was so glaringly evident relative to time was that each day of the instructional week is strikingly similar to itself, week after week. For example, Monday may be described as a day when teachers organized students into instructional groups, assigned instructional tasks for the whole week, distributed instructional materials and assisted small groups or individual learners with their instructional tasks. However, when we contrasted Monday with the end of the week, Friday tended to be a day when teachers culminated student activities in a whole group context. On Friday, teachers were observed to administer spelling tests, monitor completion of seatwork, collect work-folders containing completed written tasks and organize

various work areas (e.g. student desks, learning centers, reading corner, etc.) in the classroom. Overall, a substantial increase in managerial teacher behavior was witnessed from Monday to Friday. The general teacher behavior pattern was facilitator on Monday and more frequently managerial by Friday. Table 3 shows the percentage of teacher behaviors by role, each item on the observation system within that role and the contrasting pattern from Monday to Friday.

Insert Table 3 about here

Consequently, time appears as a basic organizational unit of planning and action in the classroom. It may be inferred that the instructional week and its planned sequence of teaching-learning tasks is apparently used by teachers as a strategy for coping with the multiplicity of required teacher functions and is an integral part of their instructional management patterns.

Discussion

The repeated similarity of each day, week after week, was an interesting phenomenon and seemed worthy of further study. We, therefore, initiated informal interviews with teachers to ascertain whether they were aware of this organization pattern. They generally reported that it was an intuitive response. One said, "it just seems like the thing to do." Another asked, "don't all of us do that?" One teacher, however, explained that it was the easiest way to guarantee that she covered the content she wanted the students to have. This latter response suggested that this teacher consciously planned such a pattern, and did so for a pedagogical reason as well as managerial purposes. That is, not only are such patterns used by teachers as coping strategies, but they have instructional purposes in that they provide a structural model of the content for students and imply manageable learning units of study to learners. Moreover, such instructional management patterns have been described previously by Yinger (1978) in his study of teacher planning and preactive decision making.

In his study, Yinger identified two central aspects of the teacher's planning technology as 1) planning for instructional activities and 2) use of teaching routines.

Activities were described as the basic structural units for classroom action, and they had an important role in the teacher's planning decisions. Functionally, activities played the role of ecological units of behavior as described by Doyle (1977b). Consequently, activities were defined in Yinger's study as the equivalent of controlled behavior settings wherein general boundaries and guidelines for behavior were established by the teacher through preactive planning.

Routines were seen to function in two ways. First, routinization fixed certain aspects of behavior and thus reduced the number of characteristics of instructional situations that had to be evaluated, decided upon and manipulated. Second, routines increased predictability and reduced complexity of the classroom environment for students, better enabling them to predict the direction an activity was going and what would be expected of them as participants. Furthermore, Yinger concluded that the result was more time was spent on content and less on procedure.

Preliminary results from our interviews with one fourth grade teacher yielded similar results to that of Yinger. Our teacher reported that she first expresses the content to be covered through objectives. Her second stage is to identify pupil activities and teaching procedures which are appropriate for that content and these pupils. In this fashion the teacher creates and controlls the behavior setting through preactive planning.

As reported elsewhere in this paper, routines were manifested in our study through repetitive daily activities for each day of the instructional week. Yinger refers to such as executive planning routines. Also consistent with Yinger's findings the teacher we chose for more in-depth study described two other types of routines. She identified instructional routines wherein established pupil learning behavior patterns are signalled by the implementation of certain types of instructional activities. Secondly, she described management routines which are procedures or expectations for pupil behavior of a more general interactive social nature.

The consistent results of the Yinger study and this one are also compatable with the self reports of teachers survey by Zahorik (1970) and the "think aloud" technique reported by Peterson, Marx and Clark (1978).

Conclusions

The descriptive findings of this study, although preliminary and tentative, seem consistent with those of several previous studies. Previously cited studies by Gump (1967) and Adams and Biddle (1970) describe the specifics of teacher-pupil behavior in the rule-bound system of the classroom environment.

Similarly, lesson type, subject matter and instructional group size emerged as having importance for teacher behavior in this study.

The results of this study are also consistent with those reported by Jackson (1968), Smith and Geoffrey (1968), Kounin (1970) and Doyle (1977b) in that, more effective experienced teachers develop a repertoire of strategies which enable them to cope with the broad environmental demands of the classroom environment.

Nonetheless, the most salient consistency may be with the Yinger (1978) study with regard to the interrelationship between preactive and interactive teacher decision making. This relationship is the basis for generation of our future research questions.

Such research as reported here should underscore the need to investigate the science of teaching where and when it develops and functions during teaching in real classrooms. And future efforts must consider the implications for teacher education as well as application of resulting theory mechanisms in preparing new teachers and renewing the skills of inservice teachers.

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TABLE I
Percentage of Observed Teacher Behaviors
by Role and Subject Matter

Instructional Role	Subject			
	Reading-Language	Math	Science	Soc. St.
Facilitator	45	14	9	2
Manager	19	7	2	2
% of all behavior	64	21	11	4

TABLE 2
Percentage of Observed Teacher Behaviors
Subject Matter and Size of Instructional Group

	Independent	Small Group	Whole Group
Reading-Language	71	98	38
Mathematics	26	2	21
Science	2	-	31
Social Studies	1	-	9
% of all behaviors	52	16	32

TABLE 3
Percentage of Teacher Behaviors by
Instructional Role, Item and Day of the Week

Instructional Role	Days of Week	
Facilitator	Monday	Friday
1. Gives instruc. directions	17.81	17.65
2. Discussing plans	5.48	11.76
3. Discussing progress	2.74	5.88
4. Lecturing	34.25	20.59
5. Assisting pupil(s) with task	6.85	-
6. Praising/reinforcing	9.59	5.88
Total	76.72	61.76
Manager		
1. Defining rules	8.22	2.94
2. Directing to act	1.37	2.95
3. Monitoring seatwork	1.37	2.94
4. Organizing materials	5.47	17.65
5. Taking attendance	6.85	11.76
Total	23.28	38.24